

sub-group the species; Pfeiffer attempted to do so and made them into three sections—(a) with the umbilicus open; (b) rather imperforate; (c) aberrant species. The border-line between (a) and (b), and the use of such a definition as (c) I fail to grasp.

M. Degrange-Touzin, making use of a manuscript name of Dr. Boettger's, has¹ formed a new genus, *Proplecotrema*, with type *P. marginale*, Grat., to contain smooth fossil species. This would also include *P. antiquum*, *P. ovale*, *P. turbiniforme*, and *P. conicum*. I regard this genus as unnecessary, and so do not recognize it. There is an interesting note on the subject of the absorption of the internal whorls by Crosse and Fischer.²

The recent species are as follows:—

1. *P. decussatum*, H. and A. Adams. Proc. Zool. Soc. 1853 (1854), p. 121.

They give the locality as the Philippines, but the tablet has now no label.

2. *P. striatum*, Philippi. Zeitsch. für Malak. 1846, p. 98.

The synonyms are ? *Laimodonta striata*, Nuttall MS., *P. inæquale*, C. B. Ad. MS., *P. labrellum*, H. and A. Ad. (Proc. Zool. Soc. 1853, p. 122, non *Auricula labrella*, Deshayes).

Hab.—Sandwich Is. (Nuttall); Rapa Is., I. of Negros, and Borneo (Mus. Cuming); Oahu (Pease).

3. *P. bicolor*, Pfeiffer. Mon. Auric. 1856, p. 104.

This may prove to be *P. striatum*, Phil.: from the types, however, it seems to differ in that its mouth, both by size and position of teeth, is more closed; the umbilical chink is smaller; and it has a lighter zone under the periphery, while *P. striatum* is generally the same colour all over.

Hab.—Port Jackson (Mus. Cuming).

4. *P. hirsutum*, Garrett. Amer. Journ. Conch. vii. 1872, p. 219.

Hab.—Viti Is. (Garrett). Allied to *P. striatum*, Phil.

5. *P. octanfractum*, Jonas. Zeitsch. für Malak. 1845, p. 169.

I place *P. clausum*, H. and A. Adams (Proc. Zool. Soc. 1853, p. 121), with some doubt as a synonym of this species. There are two tablets labelled *P. clausum* in the Cuming Collection: one is *P. striatum*, Phil., and the other *P. octanfractum*. Of this latter tablet one has been figured by Pfeiffer³ under the name of *P. clausum*. Pease records⁴ *P. clausum* from Hawaii, and states that his specimens agree rather with the Messrs. Adams' description than Pfeiffer's; his shells therefore are probably *P. striatum*. *P. consobrinum*, Garrett,⁵ is also a synonym.

Hab.—New Caledonia and Savage Is. (Brenchley), Paumotu, Fiji, and Gambier Is. (Garrett), Port Jackson (Brazier), Borneo (Everett),

¹ Act. Soc. Linn. Bordeaux, vol. xlv. (1893), p. 157.

² Journ. de Conch. xxx. (1883) pp. 171–181, pl. viii.; abstract in Journ. R. Micro. Soc. iv. (1884) pp. 730–731.

³ Novit. Conch. i. p. 15, t. 5, figs. 9–11.

⁴ Proc. Zool. Soc. 1871, p. 469.

⁵ Proc. Acad. Nat. Sci. Philad. 1873, p. 236.

I. of Sibuyan, I. of Cebu, Cagayan, I. of Mindanao, etc. (Hidalgo); as *P. clausum*, Hawaii (Baldwin and Pease), Mauritius, Seychelles and Andaman Is. (Nevill), Bombay (Fairbank), Australia (c. Coll. As. Soc. Bengal), Taviuni (Mus. Godeffroy).

6. *P. moniliferum*, H. and A. Adams. Proc. Zool. Soc. 1853 (1854), p. 120.

The authors give no locality, but the tablet is now labelled "Borneo."

7. *P. punctatostriatum*, H. and A. Adams. Proc. Zool. Soc. 1853 (1854), p. 121.

Hab.—Borneo (Everett), Macau (Möllendorff). Messrs. Adams give "Borneo," but the tablet is now labelled "Singapore."

8. *P. exaratum*, H. and A. Adams. Proc. Zool. Soc. 1853 (1854), p. 122.

The tablet bearing this name in the Cuming Collection consists of specimens of *P. striatum*, and even these specimens do not agree with Messrs. Adams' vague original diagnosis. Probably the species must be given up as unidentifiable.

Hab.—Borneo (Mus. Cuming).

9. *P. bellum*, H. and A. Adams. Proc. Zool. Soc. 1854 (1855), p. 37.

The synonyms are:—

1862. *P. Souverbiei*, Montrouzier. Souverbie in Journ. de Conch. x. p. 246.

1867. *P. exiguum*, H. Adams. Proc. Zool. Soc. 1867, p. 307.

1873. *P. turritum*, Garrett. Proc. Acad. Nat. Sci. Philad. 1873, p. 235.

Nevill named¹ a variety *compressiuscula*, from Burma (Hungerford). There is a specimen in the British Museum from Mauritius, resembling in form *P. striatum*, which is, in sculpture and position of teeth, closely allied to *P. bellum*; it appears to be distinct, but I forbear to describe it from a single specimen. It may be the "new sp." recorded,² but not described, by Nevill from the Seychelles.

Hab.—Mauritius (Nevill *vide* H. Adams); as *P. Souverbiei*, New Caledonia (Garrett and Gassies), Andaman Is. (Nevill), Mayotte (Marie), Viti, Paumotu, and Gambier Is. (Garrett); as *P. turritum*, Taviuni (Garrett). Messrs. Adams give "Philippines," but the tablet is now labelled "Mauritius."

10. *P. rapax*, Dohrn. Malak. Blatt. 1859, p. 204.

Nevill named³ a variety *minor*, from Ross I., Andamans (Wood-Mason).

Hab.—Tahiti (Vesco), I. of Anaa (Pease), Massau (Issel), Aden (Stoliczka and Nevill), Lohëiyah (Jousseau), Annesley Bay (W. T. Blandford), Bombay (Fairbank).

11. *P. mordax*, Dohrn. Malak. Blatt. 1859, p. 204.

¹ Hand List Ind. Mus. pt. i. 1878, p. 223.

² Proc. Zool. Soc. 1869, p. 66.

³ Hand List Ind. Mus. pt. i. 1878, p. 224.

There is a variety *producta*, Nevill, from Annesley Bay (W. T. Blanford). These last two species are probably identical; I do not unite them, as I have not seen authentic specimens.

Hab.—Arabia (Wilke), Massau, etc. (Jickeli), Nossi-Comba (Marie).

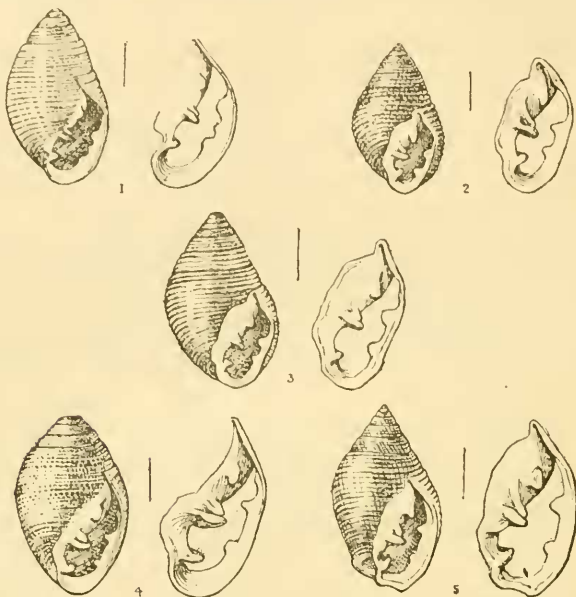


FIG. 1. *Plectotrema punctostriatum*.
 ,, 2. ————— *monilifera*.
 ,, 3. ————— *bicolor*.
 ,, 4. ————— *punctigerum*.
 ,, 5. ————— *decussatum*.

These figures are drawn from specimens on the type tablets of the Cumingian Collection in the British Museum (Natural History).

12. *P. typicum*, H. and A. Adams. Proc. Zool. Soc. 1853 (1854), p. 120.

The synonymy, in my opinion, includes both *P. livatum* and *P. concinnum*, which were described in the same paper as *P. typicum*; they appear only to vary in the size of the umbilicus, which is not even constant in the type tablet of *P. typicum*. Mr. Brazier has suggested that they may be forms of *P. octanfractum*, but from the specimens I have seen I should place them here.

Hab.—Pulo Penang (Mus. Cuming), I. of Sibuyan, Cagayan, I. of Mindanao, etc. (Hidalgo), New Caledonia (Gassies); as *P. livatum*, Moreton Bay (Mus. Cuming), New Caledonia and Savage Is. (Brenchley); as *P. concinnum*, Moreton Bay (Mus. Cuming), Port Jackson, Tambourine Bay, Hunters Bay, Bantry Bay (Brazier), Borneo (Everett).

13. *P. Binneyi*, Crosse. Journ. de Conch. xv. (1867), p. 448.

Hab.—Peron Peninsula, W. Australia (Bryce Wright).

14. *P. Siamense*, Morelet. Sér. Conch. iv. (1875), p. 273.

Hab.—Siam (Morelet).

15. *P. punctigerum*, H. and A. Adams. Proc. Zool. Soc. 1853 (1854), p. 120.

Dr. Möllendorff describes¹ a var. *major* from Macau.

Hab.—Borneo, Vizagapatam (Mus. Cuming), Singapore (Pfeiffer), Siam (Morelet), Vaico, Cochinchina (Crosse and Fischer), Macau, Swatow (Möllendorff).

16. *P. imperforatum*, H. and A. Adams. Proc. Zool. Soc. 1853 (1854), p. 120.

I regret to have to unite *P. Cumingianum*, W. T. Blanford,² with this species, of which the original specimens are execrable, but I am unable to see any distinction between them.

Hab.—Mindanao (Hidalgo), I. of Negros (Mus. Cuming); as *P. Cumingianum*, Irawady Delta (Blanford).

17. *P. minutum*, Möllendorff. Jahrb. Deutsch. Malak. Gesel. xii. (1885), p. 351.

Hab.—Hong-Kong (Hungerford and Schmacker).

18. *P. Cubense*, Pfeiffer. Malak. Blatt. 1854, p. 153.

Hab.—Cardenas, I. of Cuba (Pfeiffer), Havana, Matanzas, etc. (Arango).

19. *P. ciliatum*, Tate. Proc. Roy. Soc. S. Austral.³ vol. ii. (1879), p. 135, pl. v. fig. 7.

Hab.—Port Adelaide, Streaky Bay, S. Australia (Tate).

Dr. von Möllendorff has described⁴ a *Cassidula plecotrematoides*, which, but for his opinion to the contrary, I should have placed in *Plecotrema*.

The few fossil species with which I am acquainted are as follows:—

20. *P. antiquum*, nom. nov.

Synonym: *P. minuta*, Briart and Cornet (Mém. Acad. R. Belg. 1889, xlvii. p. 101), *non* Möllendorff (1885),

Form. et loc.—Calcaire Grossier at Mons.

21. *P. ovale*, Briart and Cornet. Mém. Acad. R. Belg. 1889, xlvii. p. 102.

Form. et loc.—Calcaire Grossier at Mons.

22. *P. turbiniforme*, Briart and Cornet. Mém. Acad. R. Belg. 1889, xlvii. p. 102.

Form. et loc.—Calcaire Grossier at Mons.

23. *P. conicum*, Briart and Cornet. Mém. Acad. R. Belg. 1889, xlvii. p. 104.

I leave this and the last species in *Plecotrema* with some doubt, but

¹ Jahrb. Deutsch. Malak. Gesel. xii. p. 351.

² Journ. Asiatic Soc. Bengal, xxxvi. (1867) p. 65, pl. ii. fig. 16.

³ Vols. i. and ii. of this work appear to have escaped the notice of Prof. von Martens when working at the Zoological Record.

⁴ Jahrb. Deutsch. Malak. Gesel. xii. p. 352, pl. ix. fig. C.

as they were so described, and I only know them from figures and descriptions, I do not like to remove them.

Form. et loc.—Calcaire Grossier at Mons.

24. *P. distensum*, Briart and Cornet. Mém. Acad. R. Belg. 1889, xlvii. p. 96.

Described as a *Pythia*, but I consider it a *Plecotrema* despite its varices.

Form. et loc.—Calcaire Grossier at Mons.

25. *P. Callibasis* (Des Moulins MS), Tournouër. Journ. de Conch. 1871, xix. p. 361.

Form. et loc.—Miocene at Martillac, etc.

26. *P. marginale*, Grateloup, 1838. Act. Soc. Linn. Bordeaux, x. p. 255.

Form. et loc.—Miocene at Saint-Paul, Mainot, Martillac, etc.

27. *P. Bourgeoisii*, Tournouër. Journ. de Conch. 1870, xviii. p. 356.

Form. et loc.—Miocene at Pont-Levoy.

28. *P. Blesene*, Tournouër. Journ. de Conch. 1870, xviii. p. 357.

I leave this and the last in *Plecotrema*, with some doubt.

Form. et loc.—Miocene at Pont-Levoy.

Mons. Tournouër also places his *P. Delaunayi*¹ in this group, but I do not think it properly belongs here. Probably several other fossil species are known, which, though congeneric with the above, have been placed in different groups.

¹ Journ. de Conch. 1870, xviii. p. 357.